

REMARKS/ARGUMENTS

The final Office Action of November 26, 2008 has been carefully reviewed and these remarks are responsive thereto. Claims 23-40 are pending, and allowance of these claims is respectfully requested.

Rejection under 35 U.S.C. 103(a)

Claims 23-40 were rejected under 35 U.S.C. 103(a) as being unpatentable over Braun et al. (US 4,830,862) in view of combination of Van Ness (US 3,245,798), Lee et al. (US 5,348,756), and Nakel et al. (US 4,551,342). The Applicants respectfully disagree. For example, none of the cited art, either alone or in combination, suggests a method comprising "including in a lemon/lime flavored beverage an acidulant system consisting of (i) citric acid and (ii) adipic acid," "increasing the pH of the lemon/lime flavored beverage by up to about 0.7 pH units until the beverage has a pH between about 3.2 and about 3.8 at the time of manufacture by including in the lemon/lime flavored beverage a buffer salt system consisting of a citrate salt and a phosphate salt," and wherein either "the ratio by weight of said adipic acid : said citric acid is 1 : 15 to 1 : 3," as recited in independent claim 23, or "the ratio by weight of said adipic acid : said phosphoric acid : said citric acid is 3.0-4.0 : 1.4-2.0 : 1.0," as recited in independent claim 24.

The Office Action states on pages 6-7 that "altering the relative amounts of edible acids in a beverage composition was known to a skilled artisan at the time of the invention." The Office Action states that "[t]herefore, it would have been a matter of routine optimization experimentation to one of ordinary skill at the time of the invention to modify beverage composition as taught by Braun and include organic acids such as adipic acid in relative amounts in order to keep the total acidity of the beverage in the desired range in order to make a beverage that has desirable tartness and pH and that remains stable upon storage, as taught by Nakel." *Id.* The Office Action also states on page 5 that "Lee teaches that by modifying the ratio of food acids with proper combination and ratio of buffer salts it is possible to raise the pH of the without lowering the desirable sour taste."

The Office Action further contends on page 5 that "Nakel teaches that by adjusting the concentration of acids in relation to the cations or buffer salts, it is possible to alter the pH and sourness (tartness) in the flavor of the resulting beverage (column 9, lines 10-17). Therefore, it would have been obvious to the one with ordinary skill in the art at the time of the invention to modify Braun based on the teachings from Nakel and include acids as taught by Nakel in Embodiment 2 to achieve the desired stable (shelf stable) acidic beverage compositions."

In fact, Nakel discloses beverages in which calcium salts are stable from precipitating out of solution, thus the acidic beverage compositions of Nakel are shelf stable with respect to *calcium salts*. In contrast to Nakel, the instant claims do not recite calcium salts and are unrelated to maintaining the stability of calcium salts in beverages. Moreover, the calculations for the acids provided by Nakel are relevant only for beverages containing specific cations and acids: "The ternary diagram for the cation and acid components were developed by evaluating a number of attributes of liquid beverages containing different mixtures of these key cations and acids." (Col. 7, 37-40) Further, "a panel of 15 expert tasters evaluated several sets of beverage samples containing 10 selected mixtures of cations (acid component held constant) and 10 selected mixtures of acids (cation component held constant)." (Col. 7, lines 51-55) Consequently, the equations were determined completely experimentally for a specific combination of ingredients and there is no guidance for one of skill in the art regarding extrapolating the disclosure or predicting how to successfully prepare other, different compositions. Thus, the method of the present invention yields more than a predictable result.

Braun is related to beverages supplemented with calcium including an acid component. Braun states that the "acid component comprises one or more edible acids, which can include phosphoric acid, citric acid, malic acid, fumaric acid, adipic acid, lactic acid, tartaric acid, gluconic acid or mixtures thereof.... Particularly preferred edible acid systems comprise phosphoric acid, citric acid, malic acid, gluconic acid or combinations thereof." (See Col. 5, lines 58-68) Nowhere else does Braun discuss adipic acid, or a combination of adipic and citric acid.

As noted in the Background of the present application, Lee U.S. Patent 5,348,756 relates to gelatin gels and powdered mixes therefore only. Lee is directed to the preparation of gelatin gels which have an elevated pH of at least 4.15 to achieve a reduced amount of gelatin for a desired gel strength, and which also have a desired sour taste. No lemon/lime beverages are disclosed in Lee. One of ordinary skill in the art looking to improve the stability of lemon/lime flavored beverages would not look to the art of Lee to remedy the deficiencies in Braun, Van Ness or Nakel.

There are innumerable possible combinations of types and amounts of edible acids and buffering salts; the disclosure of several examples of combinations in the cited art does not render obvious *every other* combination. There is no simply suggestion in Braun, Van Ness, Lee or Nakel to select the claimed weight ratios of the specific acids and buffer salts. Indeed, the only cited art to disclose combining adipic and citric acids is Lee, which teaches a very different weight ratio of the two acids than is recited in the instant claims. In particular, Lee teaches that a strawberry flavored gelatin dessert mix or gel "can be reformulated to increase the pH for 0.2 units or more without lowering the sour taste by employing an adipic acid to fumaric acid and/or citric acid ratio of from 15-21 : 1," (Col. 2, lines 37-40). The instant claims related to a lemon/lime beverage, in contrast, recite an adipic acid to citric acid weight ratio of from 1 : 15 to 1 : 3 (claim 23) and 3 : 1 to 4 : 1 (claim 24). These ranges are substantially different from the weight ratio ranges taught by Lee to provide a desirable sour taste in combination with buffering salts, and there is no suggestion within the disclosure of Lee that selecting any alternate ratios would provide a tart taste in a lemon/lime beverage. Van Ness is directed to improving the solubility of fumaric and adipic acids so that they may more readily be used in beverages. (See Col. 1, lines 21-26)

Consequently, while Braun and Van Ness may teach that adipic acid can be used in a beverage, there is no teaching in any of the cited art that a specific ratio by weight of adipic acid to citric acid can solve the problem of tartness of a lemon/lime flavored beverage being unacceptably compromised when the pH of the lemon/lime flavored beverage is raised to make the flavor of the beverage stable for a longer period of time. The prior art of Braun, Van Ness, Lee and Nakel, alone or in combination, fail to provide any guidance whatsoever as to which

acid combination and ratio by weight of acids within such an acid combination could possibly solve the above tartness problem when the pH of a lemon/lime flavored beverage is increased by up to about 0.7 pH units until the beverage has a pH between 3.2 and 3.8 at the time of manufacture.

Thus, one of ordinary skill in the art would not have been motivated by a combination of Braun, Van Ness, Nakel, and Lee, to practice the methods of independent claims 23 or 24. Even if one of ordinary skill in the art was motivated to combine Braun, Van Ness, Nakel, and Lee, the proposed combination does not result in the claimed inventions. For example, none the cited art, either alone or in combination, teaches a method including "increasing the pH of the lemon/lime flavored beverage by up to about 0.7 pH units until the beverage has a pH between about 3.2 and about 3.8 at the time manufacture by including in the lemon/lime flavored beverage a buffer salt system consisting of a citrate salt and a phosphate salt, wherein the ratio by weight of said adipic acid : said citric acid is 1 : 15 to 1 : 3, and wherein for up to seven months following manufacture the beverage is more tart than a beverage without said ratio," as claimed in claim 23.

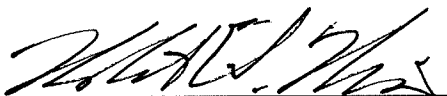
In view of the foregoing, it is respectfully submitted that independent claims 23 and 24 are patentable over the prior art. The dependent claims are patentable for at least the same reasons that independent claims 23 and 24 are patentable, and for the additional features recited therein.

Conclusion

In view of the foregoing, it is respectfully submitted that pending claims 23-40 are in condition for allowance. The Examiner is invited to contact the undersigned at the telephone number provided below, should it be deemed necessary to facilitate prosecution of the application.

Respectfully submitted,
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